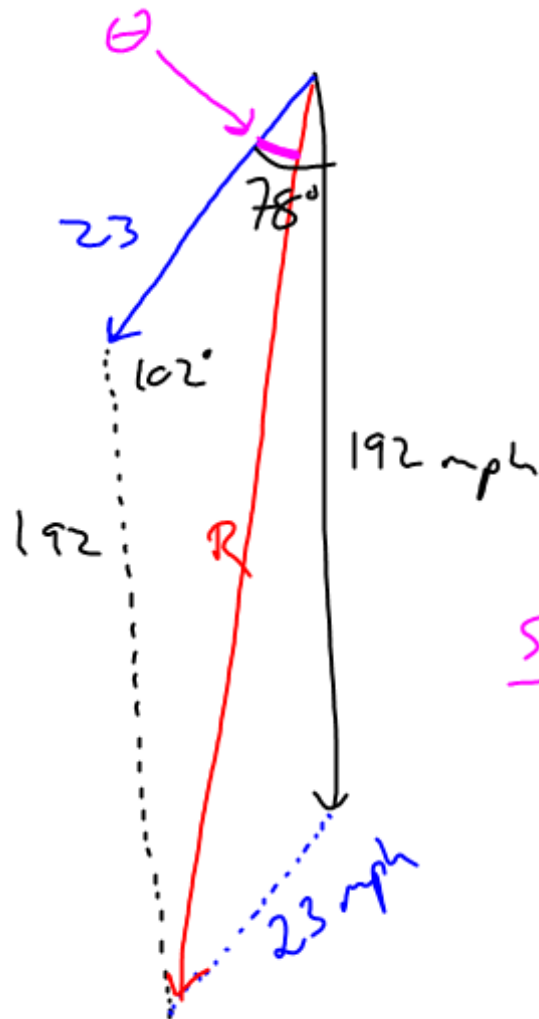


#28 in 7.5



$$R^2 = 192^2 + 23^2 - 2(192)(23)\cos(102^\circ)$$

$$R = 198 \text{ mph}$$

$$\frac{\sin 102}{198} = \frac{\sin \theta}{192}$$

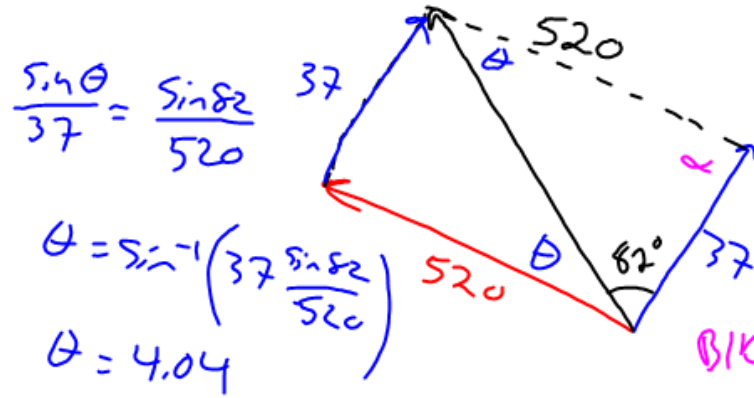
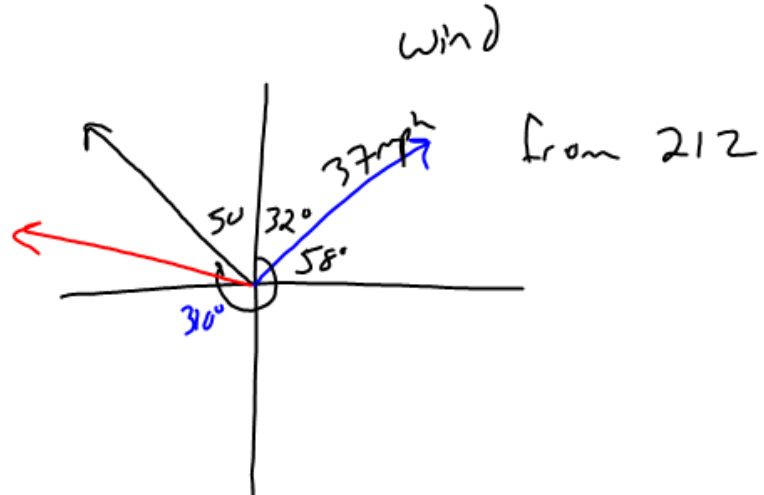
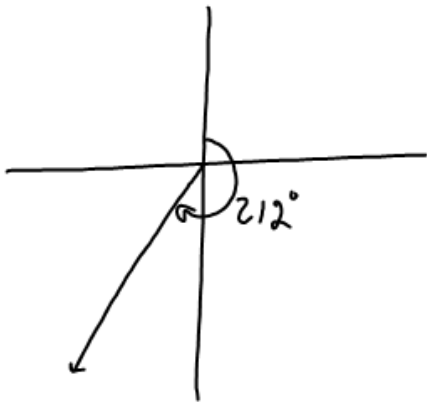
$$\theta \approx 71.5$$

from 78° 

$$\text{bearing} = 180^\circ + (78 - 71.5)$$

$$\approx 186.5^\circ$$

(51)



$$\frac{\sin \theta}{37} = \frac{\sin 82}{520}$$

$$\theta = \sin^{-1}\left(37 \frac{\sin 82}{520}\right)$$

$$\theta = 4.04$$

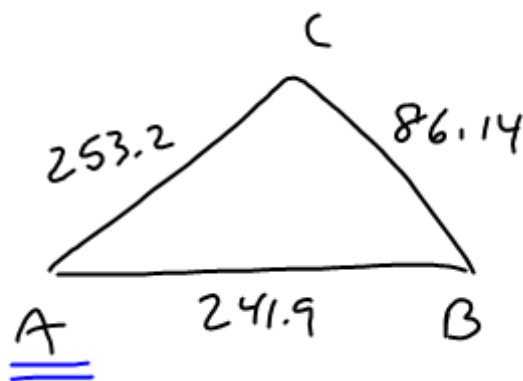
$$180 - 82 - 4.04 = \alpha$$

$$\alpha = 93.96$$

$$BK^2 = 37^2 + 520^2 - 2(37)(520)(\cos(93.96))$$

$$BK = 523.8 \text{ mph fly at } 306^\circ$$

⑪ $a = 86.14$ $b = 253.2$ $c = 241.9$ Find A



$$86.14^2 = 253.2^2 + 241.9^2 - 2(253.2)(241.9)\cos A$$

$$86.14^2 - 253.2^2 - 241.9^2 = -122498.16 \cos A$$

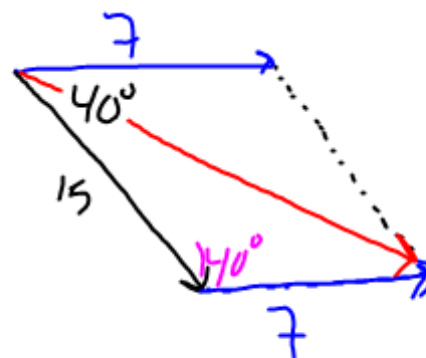
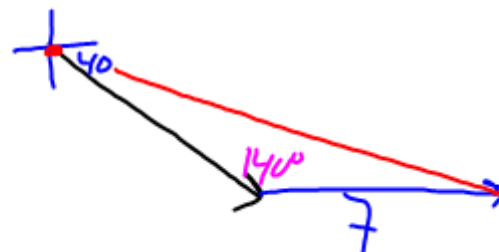
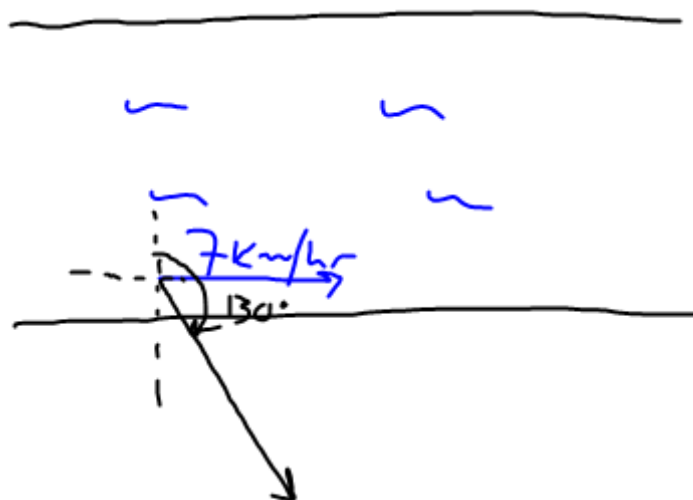
$$\frac{-115205.75}{-122498.16} = \frac{-122498.16 \cos A}{-122498.16}$$

$$0.94 = \cos A$$

$$A = \cos^{-1}(0.94)$$

$$A \approx 19.87^\circ$$

(52)



CH. 7 TEST

- Given 3 pieces of info about Δ , solve for other 3 pieces
- Law Sines/Cosines Applications
 - finding distances
 - Wagon problem
 - forces pulling something
 - Airplane problem
- Area of $\Delta = \frac{1}{2}ab\sin C$